



تحلیل داده و هوش تجاری

جلسه ششم - پاور بی آی

DATA ANALYSIS & BI

POWERBI

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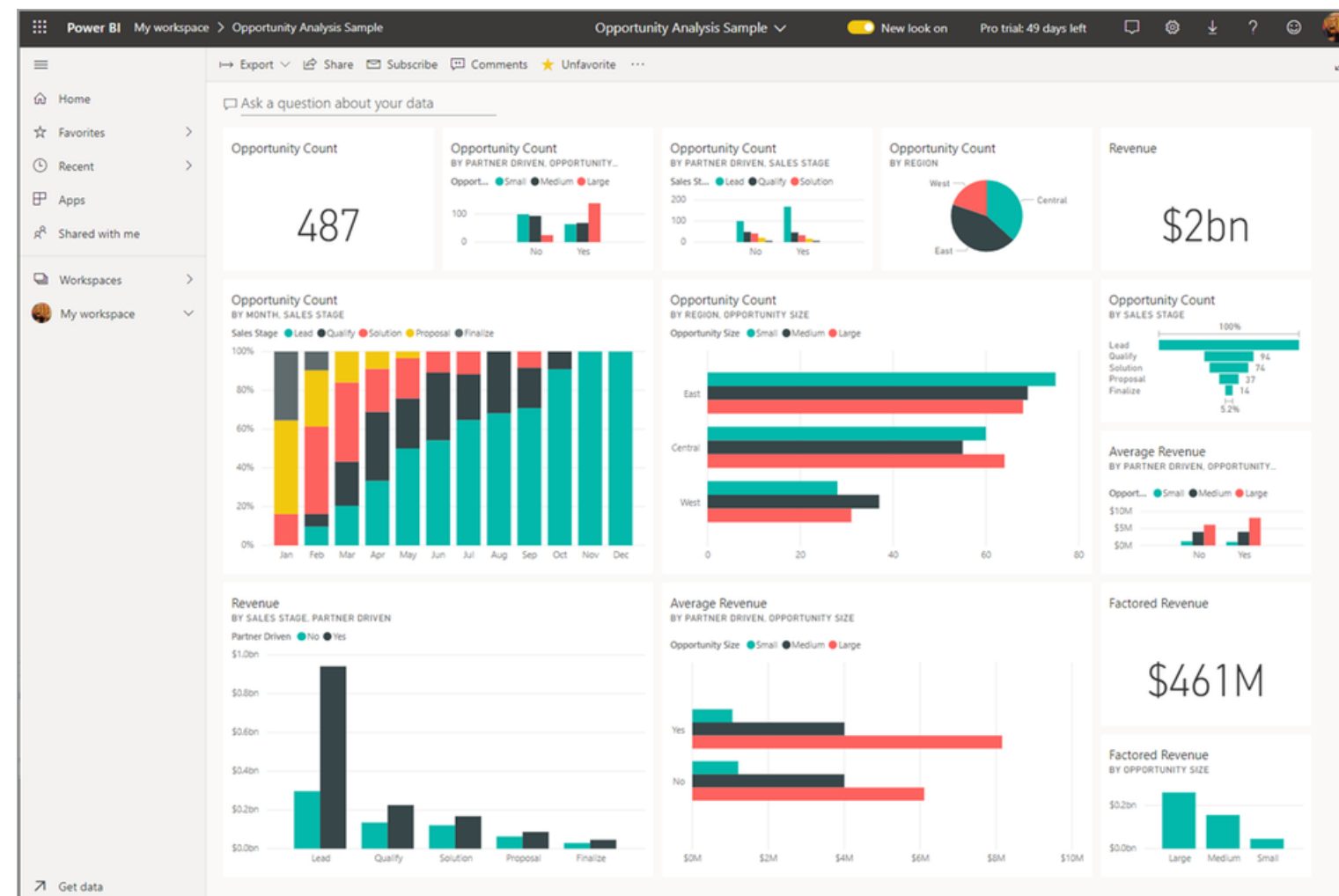
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PowerBI

- **What is Power BI?**
 - A business analytics tool by Microsoft.
 - Enables interactive data visualization and sharing insights across an organization.
- **Key Features:**
 - Real-Time Analytics: View and analyze data in real-time.
 - Easy Sharing and Collaboration: Share dashboards and reports easily within teams.
 - Rich Custom Visualizations: Create visually appealing reports with a variety of charts and graphs.



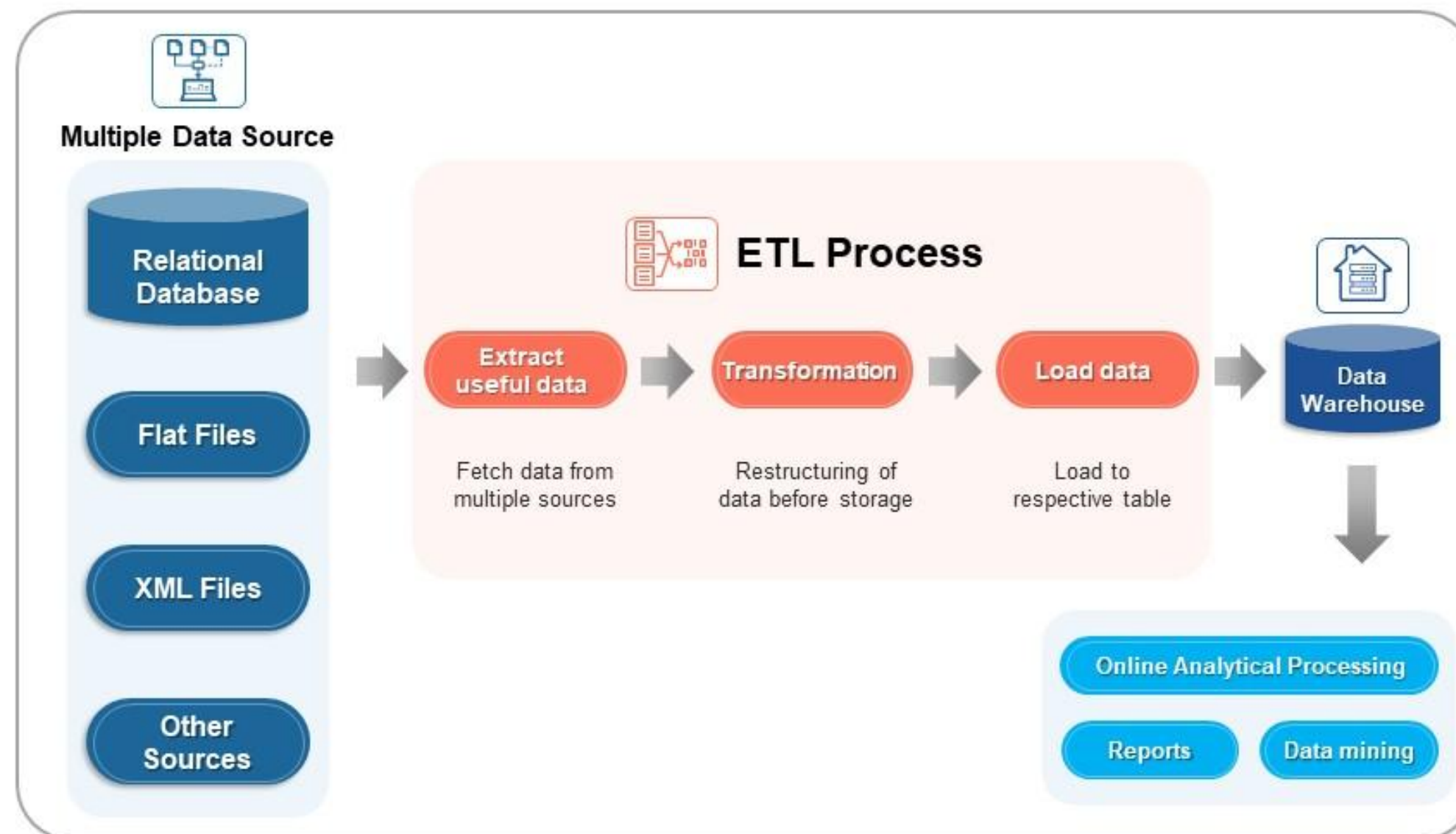
Power Query

- **What is Power Query?**

- A data connection technology enabling data extraction, transformation, and loading (ETL).

- **Importance of Data Preparation:**

- Cleanses and transforms raw data into a usable format.
- Saves time and ensures accuracy in analysis.



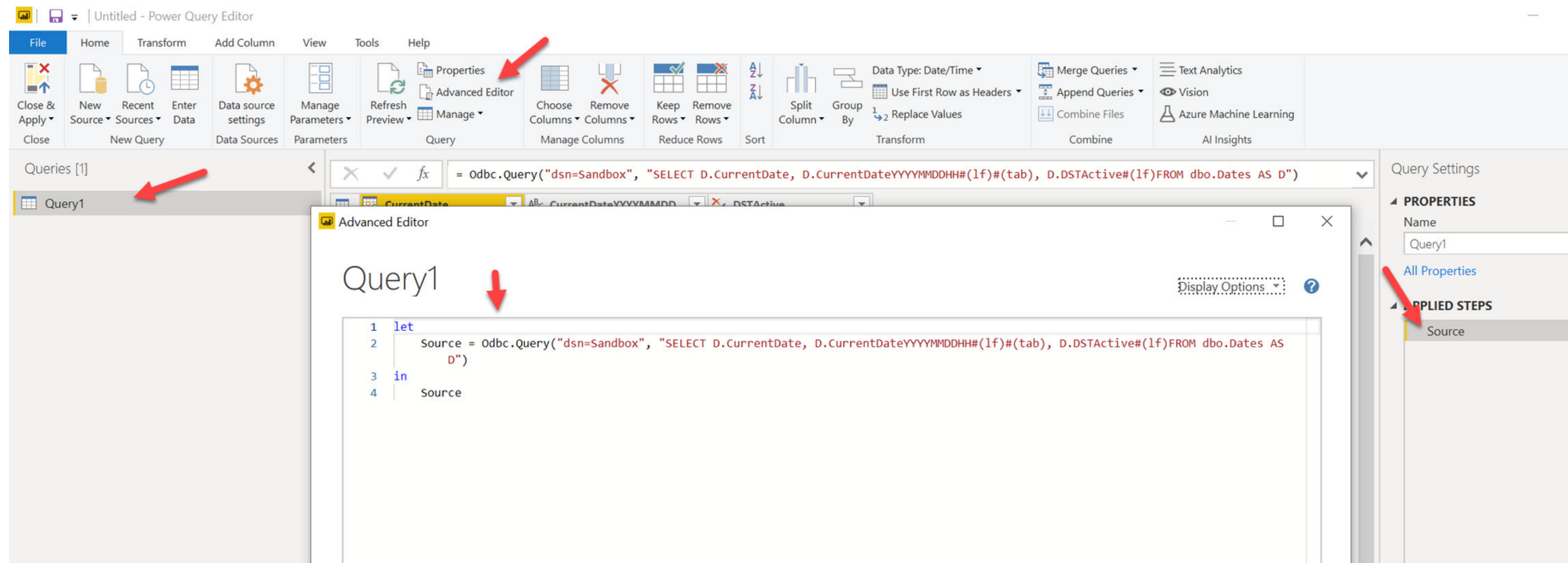
M Language

- **WHAT IS M LANGUAGE?**

- A SCRIPTING LANGUAGE USED IN POWER QUERY FOR ADVANCED DATA TRANSFORMATIONS.

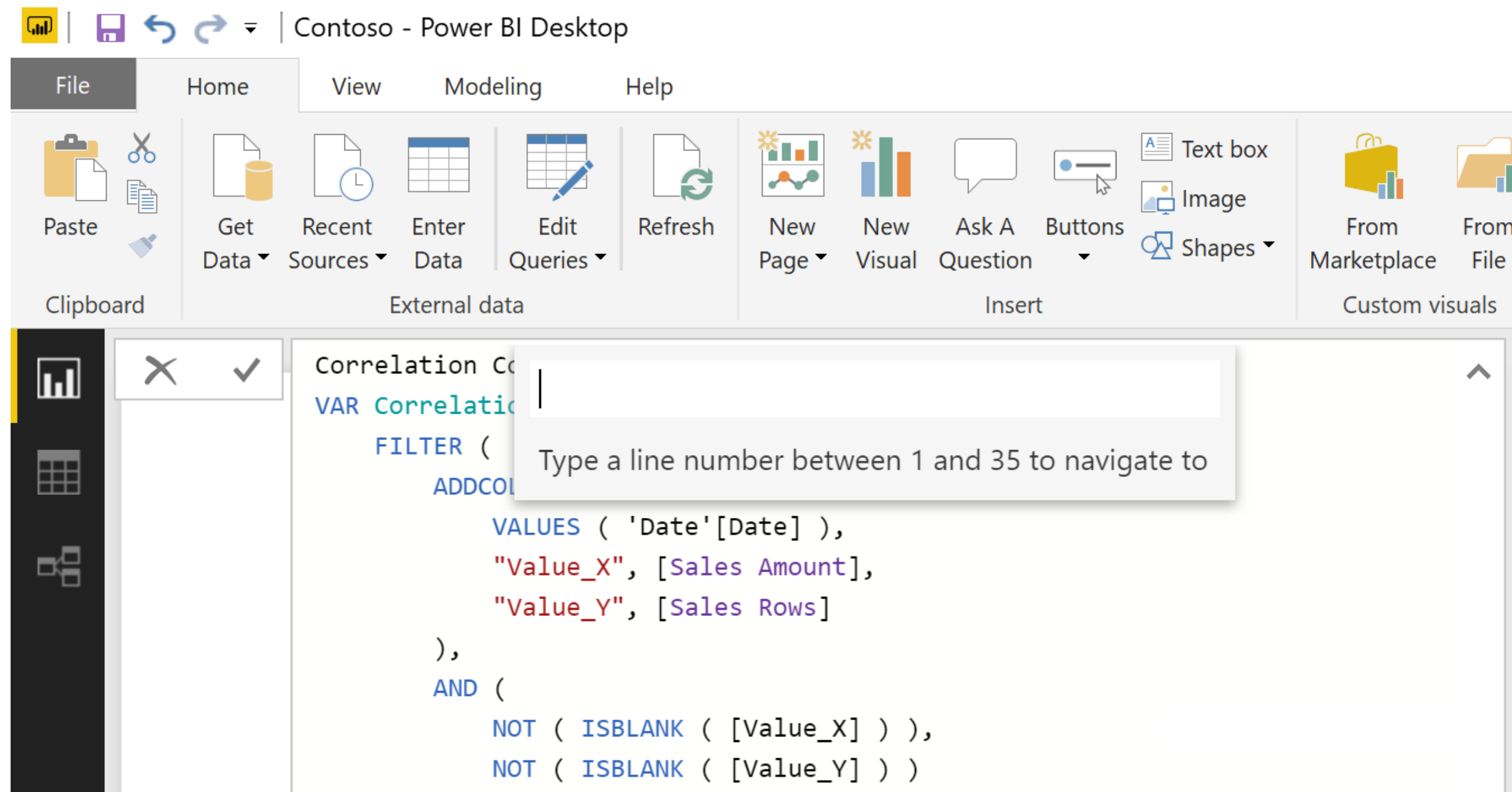
- **EXAMPLE OF M SCRIPT:**

- DEMONSTRATING A SCRIPT TO CLEAN AND FORMAT A DATASET.



DAX (Data Analysis Expressions)

- **What is DAX (Data Analysis Expressions)?**
 - A formula language for creating custom calculations in Power BI.
- **Example of DAX Formula:**
 - Demonstrating a formula to calculate Year-over-Year Growth.



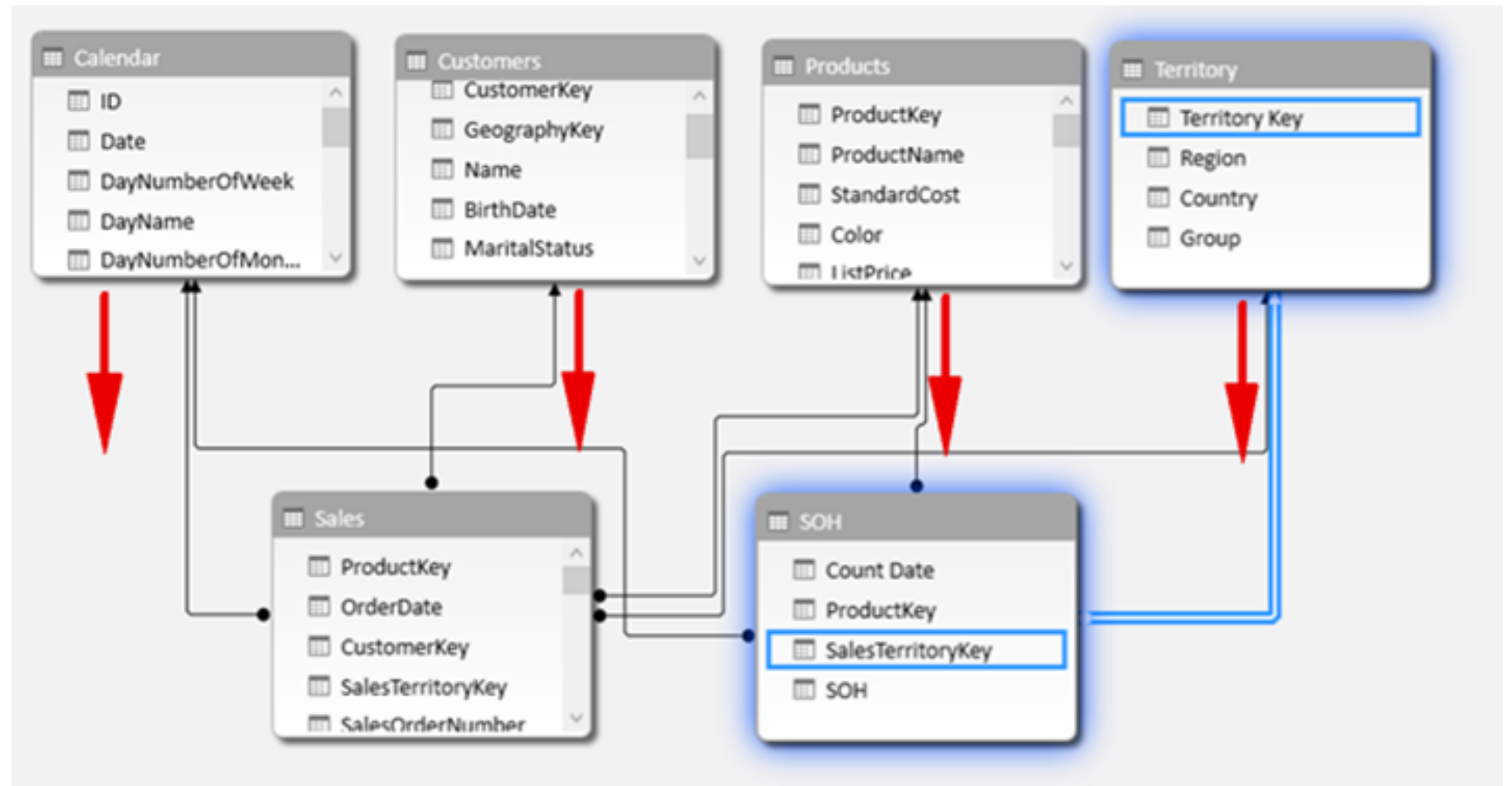
Power Pivot

- **What is Power Pivot?**

- A data modeling tool within Power BI for creating relationships between data tables.

- **Benefits of Data Modeling:**

- Enables complex analysis across multiple data tables.
- Enhances data comprehension and insight generation.



M Language vs DAX

Aspect	M Language	DAX (Data Analysis Expressions)
Purpose	ETL	Data analysis and creating calculated columns/measurements
	Ideal for cleaning and preparing data	Ideal for analyzing data once it's loaded into Power BI
Usage	Used within Power Query	Used within Power BI
	Defines custom columns and data transformations	Defines custom formulas and expressions
Complexity	More straightforward syntax for basic data manipulation	Can become complex when creating advanced calculations